

SOME ASPECTS OF RADIOECOLOGICAL MONITORING OF LITTORAL HIGH-AQUATIC PLANTS FROM WATER-BODIES WITHIN THE CHERNOBYL ACCIDENT EXCLUSION ZONE

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The impact analysis of low doses of ionizing radiation on the breathers in natural populations is an important part of radiobiological studies of non-human biota. The aim of our studies was to investigate some cytogenetic, morphological deviations and reproductive rates of the air-aquatic (13 species) and submerged (2 ones) plants of littoral ecotones from different water bodies within the Chernobyl accident exclusion zone. The absorbed dose rate for littoral emergent plants in sampling water bodies was varied from $1.3\text{E-}02$ to $1.6\text{E-}01$ Gy/h. The rate and main types of chromosome aberrations in roots meristems for 15 species of high-aquatic plants, morphological damages in reproductive organs of common reed, as well as rates of viability indexes were analyzed. There was determined the positive correlation between absorbed dose rate and chromosome aberration rate in roots of the plants from sampling water bodies. The highest rate of chromosome aberrations (up to 17 %) were registered in plants with high level of morphological deviations in seeds germs. The data obtained from the complex analysis of natural populations of the high-aquatic plants from the radioactive contaminated water bodies testify about rather high level of genetic efficiency of low doses of long-term exposure. There is observed a realization of radiobiological reactions on morphological and reproductive levels of plants from contaminated water bodies on the background of genetic instability induced by low doses.